WHAT IS CLAIMED IS:

1. Apparatus for leveling a vehicle, comprising: a right front leg, a left front leg, a right rear leg, and a left rear leg mounted to the vehicle, each leg being independently adjustable between a stowed position and an extended position wherein the leg engages the ground; a sensor mounted to the vehicle to sense the pitch and roll of the vehicle relative to a reference level plane, the sensor producing an orientation signal representing the vehicle pitch and roll; a controller coupled to the legs and the sensor, the controller responding to an operator command to level the vehicle relative to the reference level plane by actuating the legs such that they move from their stowed position to their extended position, interpreting the orientation signal to determine an end and a side of the vehicle which is above the reference level plane, then alternating between adjusting the end and the side downwardly by retracting the legs at the end and retracting the legs at the side, each leg being retracted for a first predetermined period of time during each downward adjustment.

2. The apparatus of Claim 1, wherein the sensor provides the orientation signal to the controller indicating a change in the vehicle orientation after each leg engages the ground and extends sufficiently to affect the vehicle orientation.

3. The apparatus of Claim 1, wherein the controller interprets the orientation signal after each adjustment to determine whether either the end or the side has passed through the reference level plane.

4. The apparatus of Claim 3, wherein upon determining that the one end or the side has passed through the reference level plane, the controller alternates between adjusting the one end or side upwardly by extending at least one leg at the one end or side for a second predetermined period of time which is less than the first

predetermined period of time, and continuing to adjust the other end or side downwardly by retracting at least one leg at the other end or side for the first predetermined period of time.

5. The apparatus of Claim 4, wherein the controller changes the direction of adjustment of the end and the side each time the end and the side pass through the reference level plane as indicated by the orientation signal and reduces the period of time for extending or retracting the legs at the end and the side with each passing of the reference level plane.

6. The apparatus of Claim 1, further comprising switches for individually actuating the legs.

7. The apparatus of Claim 1, further comprising four leg sensors mounted adjacent each of the respective legs, each leg sensor being connected to the controller to provide a signal indicating that the respective leg is in its stowed position.

8. An apparatus for automatically leveling a vehicle, comprising:

a plurality of legs each of which is mounted to the vehicle;

wherein each of the legs is movable between a retracted stowed position and an extended use position; and

wherein each of the legs is movable to the retracted stowed position to allow the vehicle to travel and each of the legs is movable to the extended use position to engage a ground surface prior to leveling the vehicle;

a sensor mounted to the vehicle to sense pitch and roll of the vehicle relative to a reference level plane;

wherein the sensor produces an orientation signal representing the vehicle pitch and roll; and

a controller coupled to each of the legs and the sensor;

wherein the controller monitors the orientation signal received from the sensor and in response to that signal the controller causes at least one of the legs to retract to move the vehicle downwardly relative to the ground surface, for orienting the vehicle with the reference level plane within a tolerance.

9. The apparatus of Claim 8 wherein the sensor provides the orientation signal to the controller indicating a change in the vehicle orientation after each leg engages the ground and extends sufficiently to affect the vehicle orientation.

10. The apparatus of Claim 8, wherein the controller interprets the orientation signal after each adjustment to determine whether a portion of the vehicle has passed through the reference level plane.

11. The apparatus of Claim 10, wherein upon determining that a portion of the vehicle has passed through the reference level plane, the controller alternates between adjusting an end upwardly by extending at least one leg for a predetermined period of time, and continuing to adjust another end downwardly by retracting at least one of the legs for another predetermined period of time.

12. The apparatus of Claim 11 wherein the controller changes the direction of adjustment of each end every time the vehicle passes through the reference level plane as indicated by the orientation signal, and reduces the period of time for extending or retracting the legs with each passing of the vehicle through the reference level plane.

13. The apparatus of Claim 8 further comprising switches for individually actuating the legs.

14. The apparatus of Claim 8 further comprising a plurality of leg sensors, one mounted adjacent to each of the legs, each leg sensor being connected to the controller to provide a signal indicating that the adjacent leg is in its stowed position.

15. A method for automatically leveling a vehicle which provides a plurality of legs which are each attached to the vehicle such that each of the legs is movable between retracted and extended positions, a sensor mounted to the vehicle to sense pitch and roll of the vehicle and which provides an orientation signal representing the pitch and roll, and a controller coupled to the legs and the sensor, the method comprises:

extending each leg until it engages a ground surface;

comparing the orientation signal produced by the sensor to the reference level plane after all legs have engaged the ground;

determining a high portion of the vehicle, relative to the reference level plane;

retracting at least one of the legs corresponding to that high portion for a determined actuation period; and

determining whether the high portion of the vehicle has moved through the reference level plane after the retraction of the at least one of the legs.

16. The method of Claim 15, further comprising the steps of determining a low portion of the vehicle relative to the reference level plane.

17. The method of Claim 16, further comprising the steps of extending at least on of the legs corresponding to a low portion of the vehicle for a determined actuation period.

18. The method of Claim 17, further comprising the steps of determining whether the low portion of the vehicle has moved through the reference level plane after the extension of the at least one of the legs.

19. The method of Claim 18, further comprising the steps of changing direction of movement of the vehicle every time it passes through the reference level plane as indicated by the orientation signal, and reducing the period of time for extending or retracting the legs of the vehicle with each passing of the vehicle through the reference level plane.